

Serial No. 09/987,815

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IN THE CLAIMS

61/ 1. (Currently Amended) A method for renting and charging a storage system in which an owner of the storage system rents and charges a rental charge to a user of the storage system,

wherein said storage device has a channel control unit which is connected to a host computer and responds requests from the host computer; 06j.

a cache memory which stores data sent by the host computer under control of said channel control unit;

a disk control unit which controls a plurality of storage devices so as to store said data stored in said ~~each~~ cache memory into said storage devices and

a shared memory which stores control information according to said channel control unit and said disk control unit,

comprising the steps of:

holding requests of using said disk devices in said shared memory, which are set by an operating unit connected to said channel control unit or disk control unit, AB

recording information of a state of use ~~state according to~~ of said disk devices into a use management table in accordance with said requests of using said disk devices;

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67 reading said information of said state of use state according to ~~said disk devices~~ by referring to said use management table under control of said channel control unit or said disk control unit; and

sending said read information of said state of use state under control of said channel control unit or said disk control from the storage system to a charging system of said user.

2. (Currently Amended) The method for renting and charging a storage system according to claim 1, further comprising the steps of:

inputting said information of said state of use state according to said disk devices; and

updating said inputted information of said state of use state according to said disk devices to said use management table by said user.

3. (Original) The method for renting and charging a storage system according to claim 2, further comprising the step of:

transferring starting information for indicating that said user starts using said storage system from said storage system to said charging system,

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61/ wherein in response to said starting information, said charging system starts charging to said user.

4. (Currently Amended) A method for renting and charging a storage system, in which an owner of a <sup>computer</sup> storage system rents and charges the storage system to a user of the storage system, comprising the steps of:

sending a user identification ID, a usable volume for said user at an initial setting stage and an ~~unusable~~ additional volume that cannot be used unless said user ~~operates~~ conducts a new operation for adding at the additional volume with an operating unit from said storage system to a charging system; and

charging said user of said user identification ID by ~~adding a~~ for said usable volume for said user at an initial setting stage and an ~~added~~ said additional volume ~~with added by~~ said new operation ~~for adding a volume~~.

5. (Currently Amended) The method for renting and charging a storage system according to claim 4, wherein a usable volume for said user at an initial setting stage and said ~~added~~ additional volume include at least one of a disk volume and a cache volume provided in said storage system.

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6. (Currently Amended) The method for renting and charging a storage system according to claim 4, wherein charging for a usable volume for said user at an initial setting stage is calculated by compensation for said usable volume, and charging for said ~~added~~ additional volume is calculated by compensation for a used volume of said additional volume.

7. (Previously Amended) The method for renting and charging a storage system according to claim 5, wherein charging for a usable volume for said user at an initial setting stage is calculated by compensation for a volume, and charging for said ~~added~~ additional volume is calculated by compensation for a used volume of said additional volume.

8. (Currently Amended) The method for renting and charging a storage system according to claim 6, wherein charging for said ~~added~~ additional volume is further calculated by compensation for an unused volume of said additional volume.

9. (Currently Amended) The method for renting and charging a storage system according to claim 7, wherein charging for said ~~added~~ additional volume is further calculated

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(1) by compensation for an unused volume of said additional volume.

10. (Original) The method for renting and charging a storage system according to claim 7, further comprising the step of:

transferring starting information for indicating that said user starts using said storage system from said storage system to said charging system, wherein the charging system starts charging to the user.

11. (Original) The method for renting and charging a storage system according to claim 8, further comprising the step of:

transferring starting information for indicating that said user starts using said storage system from said storage system to said charging system, wherein the charging system starts charging to the user.

12. (Previously Amended) The method for renting and charging a storage system according to claim 11, wherein charging is started after a predetermined period elapses from the point of reception of said starting information.

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13. (Currently Amended) The method for renting and charging a storage system according to claim 11, further comprising the step of:

\_\_\_\_\_ starting charging after a predetermined period elapses from the point of reception of said starting information by said charging system.

14. (Original) The method for renting and charging a storage system according to claim 1, further comprising the steps of:

reading an unused volume from said use management table held in said storage system; and

sending said read unused volume from the storage system to the charging system.

15. (Currently Amended) The method for renting and charging a storage system according to claim 1, further comprising the step of:

\_\_\_\_\_ ~~doubling~~ copying data stored into said storage system ~~(called a first storage system)~~ to another ~~second~~ storage system, wherein charging of said ~~second~~ another storage system is set ~~at~~ at a rate lower than that of said first storage system.

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(16. - 20. Canceled.)*21*  
21. (New) In a system having a storage system that is owned by an owner and rented to a user, a method for renting and charging for the use of the storage system comprising the steps of:*no comp for 101**22*

providing the user with an initial volume of storage space of the storage system;

charging the user for use of the initial volume at a predetermined rate;

providing an added volume of storage space of the storage system as needed by the user;

charging the user for a portion of the added volume that is actually used by the user;

wherein the owner of the storage system is notified when the user begins using a portion of the added volume.

22. (New) The method according to claim 21, wherein after a fixed period of time determined by a contract, the user is charged for the portion of the added volume actually used and a percentage of the portion of added volume that is not used.

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23. (New) The method according to claim 21, wherein information about the state of use of the storage system by the user is recorded in a management table, and wherein the state of use information stored in the management table is used in order to determine how much the user is to be charged for renting the storage system.

24. (New) The method according to claim 21, further comprising the step of:

copying data stored in a first portion of the storage system into a second portion of the storage system and charging the user for the use of the second portion of the storage system at a rate lower than for use of the first portion of the storage system.

25. (New) The method according to claim 21, further comprising the steps of:

providing a display terminal to the user; and

providing a display terminal to the owner;

wherein both the user's display terminal and owner's display terminal are connected to the storage system via the internet so that both terminals can receive information regarding the state of use of the storage system by the user.

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26. (New) The method according to claim 22, wherein information about the state of use of the storage system by the user is recorded in a management table, and wherein the state of use information stored in the management table is used in order to determine how much the user is to be charged for renting the storage system.

27. (New) The method according to claim 26, further comprising the steps of:

providing a display terminal to the user; and

providing a display terminal to the owner;

wherein both the user's display terminal and owner's display terminal are connected to the storage system via the internet so that both terminals can receive information regarding the state of use of the storage system by the user.

28. (New) The method according to claim 27, further comprising the step of:

copying data stored in a first portion of the storage system into a second portion of the storage system and charging the user for the use of the second portion of the storage system at a rate lower than for use of the first portion of the storage system.